



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/013,819

01/27/1998

ANDREW J. OUDERKIRK

50371USA5C

3799

32692

7590

09/15/2004

3M INNOVATIVE PROPERTIES COMPANY

PO BOX 33427

ST. PAUL, MN 55133-3427

EXAMINER

SHAFFER, RICKY D

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/013,819	Applicant(s) OUDERKIRK ET AL.	
	Examiner Ricky D. Shafer	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 13, 14 and 48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 13, 14 and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06 July 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on 06 July 2004 has been entered.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 48 is rejected under 35 U.S.C. 102(b) as being anticipated by Schank et al ('840).

Schank et al discloses an optical polarizer comprising a reflective polarizer (Glan-Thompson prism¹) which inherently includes first and second materials, wherein at least one of the first and second materials is birefringent for reflecting light of one polarization state and transmitting light of another polarization state and an absorbing polarizer (linear dichroic polarizing film²) which inherently absorbs light of one polarization state greater than light of another polarization state. Note column 5, lines 44 to 51.

¹ R. Guenther, 'Modern optics', John Wiley & Sons, New York, 1990, pp. 533-534. A Glan-Thompson polarizer is a block of birefringent material cut into two prisms and then cemented together, wherein said polarizer reflects one polarization component at the cement interface and transmits the other polarization component due to the refractive index difference between the birefringent and cement materials. See Figure 13-12.

² R. Guenther, 'Modern optics', John Wiley & Sons, New York, 1990, pp. 523-525. A Dichroic polarizer is an optical element, wherein light of one polarization state is absorbed to a greater extent than light of another polarization state. See page 523, lines 47 to 48.

Art Unit: 2872

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5, 13 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schank et al ('840) in view of Rogers ('729).

Schank et al discloses all of the subject matter claimed, note the above explanation, except for the reflective polarizer comprises a polymeric reflective polarizer including first and second polymeric materials, wherein at least one of the first and second polymeric materials is birefringent.

Rogers teaches it is well known to use a polymeric reflective polarizer including a multilayer stack of alternating layers of first and second materials, wherein at least one of the first and second polymeric materials is birefringent in the same field of endeavor for the purpose of reflecting light of one polarization state while transmitting light of another polarization state.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify/substitute the reflective polarizer of Schank et al to include a reflective polarizer including first and second materials, wherein at least one of the first and second polymeric materials is birefringent, as taught by Rogers, in order to obtain a functional equivalent polarizing element with enhanced polarization characteristics/efficiency. Note In re Ruff, 188 USPQ 343 (CCPA 1958) and In re Kuhle, 188 USPQ 7.

6. Claims 1, 5, 13 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al ('429) in view of Rogers ('729).

Nakayama et al discloses an optical polarizer comprising a reflective polarizer (402) for reflecting light of one polarization state and transmitting light of another polarization state and an absorbing polarizer (403) for absorbing light of one polarization state greater than light of another polarization state, note Fig. 4 along with the associated description thereof, except for the reflective polarizer comprises a polymeric reflective polarizer including first and second polymeric materials, wherein at least one of the first and second polymeric materials is birefringent.

Rogers teaches it is well known to use a polymeric reflective polarizer including a multilayer stack of alternating layers of first and second materials, wherein at least one of the first and second polymeric materials is birefringent in the same field of endeavor for the purpose of reflecting light of one polarization state while transmitting light of another polarization state.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify/substitute the dielectric multilayer films of Nakayama et al to include a multilayer stack of alternating layers of first and second materials, wherein at least one of the first and second polymeric materials is birefringent, as taught by Rogers, in order to obtain a functional equivalent polarizing element with enhanced polarization characteristics/efficiency.

Note In re Ruff, 188 USPQ 343 (CCPA 1958) and In re Kuhle, 188 USPQ 7.

As to the limitations of claim 5, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify/substitute the polarizer (403) of Nakayama to include a conventional "Polaroid sheet", invented by Edwin Herbert Land in the late 1920's, as is commonly used and employed in the optical art in order to remove any unwanted polarization state.

Art Unit: 2872

7. Claims 2-4,6-9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al ('429) in view of Rogers ('729) as applied to claims 1, 5, 13 and 48 above, and further in view of Kondo et al ('526).

Nakayama et al in view of Rogers discloses all of the subject matter claimed, note the above explanation, except for the absorbing polarizer being bonded/laminated to the reflective polarizer.

Kondo et al teaches it is known to laminate an absorbing polarizer (13) to a reflective type polarizer (7) in the same field of endeavor (see figures 7 and 9 along with the associated description thereof) for the purpose of inherently obtaining an unitary optical device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to laminate the absorbing polarizer of Nakayama to the modified reflective polarizer of Nakayama in view of Rogers, as taught by Kondo et al, in order to obtain a compact, unitary optical assembly.

As to the limitations of claims 4 and 7, it is well known to coextrude polymeric, multilayer films with and/or without dyes in the same field of endeavor for the purpose of forming a laminate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to coextrude the absorbing polarizer of Nakayama to the modified reflective polarizer of Nakayama in view of Rogers, as is well known in the art, in order to manufacture a compact, unitary optical assembly at lower manufacturing costs.

8. U.S. Patent 3,610,729 to Rogers, U.S. Patent 3,801,036 to Hasler, U.S. Patent 4,446,305 to Rogers et al, U.S. Patent 4,842,781 to Nishizawa et al, U.S. Patent 4,871,406 to Griffith and

Art Unit: 2872

U.S. Patent 5,122,905 to Wheatley et al are some exemplary references showing it is well known to coextrude polymeric, multilayer films with and/or without dyes in the same field of endeavor for the purpose of forming a laminate.

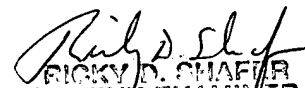
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricky D. Shafer whose telephone number is (571) 272-2320.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RDS

August 26, 2004


RICKY D. SHAFER
PATENT EXAMINER
ART UNIT 2872